

IN THE CLAIMS:

Please amend the claims to read as follows. This is a complete listing of all prior and pending claims and replaces any prior listing in this application.

1. (currently amended) A method of displaying 3D data, comprising:

~~providing at least one 3D data set defined by a 3D co-ordinate system;~~

~~providing two or more subregions within the co-ordinate system, said regions being bounded in three dimensions;~~

~~assigning a set of display rules to each subregion; and~~

~~displaying part, all or none of a 3D data set in each subregion according to the rules assigned to that subregion;~~

~~wherein said two or more subregions are spatially distinct and wherein their boundaries can be modified by a user.~~

displaying at least one 3D data set defined by a 3D coordinate system;

setting at least one boundary which divides said displayed at least one 3D data set into subregions, said subregions being bounded in said 3D coordinate system;

assigning sets of display rules to each subregion, wherein said assigned sets of display rules are different from each other; and

displaying said at least one 3D data set including said subregions according to said assigned sets of display rules;

wherein said subregions are spatially separated by said at least one boundary and wherein said at least one boundary is interactively modifiable on said display of said at least one 3D data set including said subregions by a user.

2. (currently amended) The method of claim 1, wherein the 3D data set displayed in each subregion is the same, ~~but the display rules are different.~~
3. (previously amended) The method of claim 1, wherein the 3D data set displayed in each subregion is unique to that display subregion.
4. (previously amended) The method of claim 3, wherein the 3D data sets displayed in each subregion are 3D scans of a human or animal body or portion thereof using different sensing modalities.
5. (original) The method of claim 4, where said sensing modalities comprise one or more of CT, MR, PET, SPECT and US.
6. (previously amended) The method of claim 1, wherein the subregions comprise volumes, 2D surfaces, and points.
7. (previously amended) The method of claim 1, wherein the boundaries of at least one subregion define a rectangular crop box.
8. (previously amended) The method of claim 7, wherein there are two subregions whose boundaries have a common plane.

9. (previously amended) The method of claim 1, wherein a user can define one or more boundary planes that divide a given region within the 3D co-ordinate system into two or more subregions.
10. (previously amended) The method of claim 9, wherein the boundary planes are parallel to one or more surfaces of a 3D data set.
11. (previously amended) The method of claim 1, wherein the boundaries of the subregions and the set of display rules for each subregion are defined by a user.
12. (previously amended) The method of claim 11, wherein the boundaries of the subregions and the set of display rules for each subregion are defined by system defaults which can be modified by a user.
13. (previously amended) The method of claim 1, wherein when a user modifies the boundaries of a subregion, points in a 3D data set now located in a new subregion are displayed according to the display rules of said new subregion in substantially real time as the boundaries change.
14. (previously amended) The method of claim 13, wherein said variation of the boundaries of said subregions includes one or more of translation, rotation, scaling, shear, linear warping or non-linear warping.
15. (previously amended) The method of claim 1, wherein all voxels in the subregion need not be contiguous.

16. (original) The method of claim 11, where a user defines or modifies said boundaries and/or display rules via an interactive object within the display.

17. (original) The method of claim 12, where a user defines or modifies said boundaries and/or display rules via an interactive object within the display.

18. (original) The method of claim 11, where a user defines or modifies said boundaries and/or display rules via a mouse, trackball, joystick or other spatial 2D input peripheral.

19. (original) The method of claim 12, where a user defines or modifies said boundaries and/or display rules via a mouse, trackball, joystick or other spatial 2D input peripheral.

20. (previously amended) The method of claim 1, wherein the 3D data set displayed in each subregion is stored as one of volume raster data or geometric constructs.

21. (currently amended) A computer program product comprising:
a computer usable medium having computer readable program code means embodied therein for displaying 3D data in a 3D data display system, the computer readable program code means in said computer program product comprising **code means for causing a computer to:**
~~computer readable program code means for causing a computer to provide a 3D data set defined by a 3D co-ordinate system;~~
~~computer readable program code means for causing a computer to provide two or more subregions within the co-ordinate system, said regions being bounded in three dimensions;~~
~~computer readable program code means for causing a computer to assign a set of display rules to each subregion; and~~

~~computer readable program code means for causing a computer to display all, part or none of the 3D data set in each subregion according to the rules assigned to that display subregion, wherein said two or more subregions are spatially distinct and wherein their boundaries can be modified by a user.~~

display at least one 3D data set defined by a 3D coordinate system;

set at least one boundary which divides said displayed at least one 3D data set into subregions, said subregions being bounded in said 3D coordinate system;

assign sets of display rules to each subregion, wherein said assigned sets of display rules are different from each other; and

display said at least one 3D data set including said subregions according to said assigned sets of display rules;

wherein said subregions are spatially separated by said at least one boundary and wherein said at least one boundary is interactively modifiable on said display of said at least one 3D data set including said subregions by a user.

22. (currently amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to implement a method of displaying 3D data, said method comprising:

~~providing a 3D data set defined by a 3D co-ordinate system;~~

~~providing two or more subregions within the co-ordinate system, said regions being bounded in three dimensions;~~

assigning a set of display rules to each subregion; and

displaying part, all or none of the 3D data set in each subregion according to the rules assigned to that subregion;

wherein said two or more subregions are spatially distinct, and wherein their boundaries can be modified by a user.

displaying at least one 3D data set defined by a 3D coordinate system;

setting at least one boundary which divides said displayed at least one 3D data set into subregions, said subregions being bounded in said 3D coordinate system;

assigning sets of display rules to each subregion, wherein said assigned sets of display rules are different from each other; and

displaying said at least one 3D data set including said subregions according to said assigned sets of display rules;

wherein said subregions are spatially separated by said at least one boundary and wherein said at least one boundary is interactively modifiable on said display of said at least one 3D data set including said subregions by a user.

23. (previously amended) The method of claim 1, wherein one or more 3D data sets are displayed in each subregion.

24. (currently amended) The method of claim 1, wherein the same 3D data set is displayed to in each subregion.

25. (currently amended) A method of displaying 3D data in a 3D display system, comprising:

loading ~~one or more 3D data sets~~ at least one 3D data set into a 3D display system, each 3D data set being defined by a 3D co-ordinate system ~~and being bound in three dimensions~~;

~~providing two or more subregions within the co-ordinate system, said regions being bounded in three dimensions;~~

~~assigning one or more 3D data sets to each subregion;~~

~~assigning a set of display rules to each subregion; and~~

~~displaying part, all or none of at least one of said 3D data sets in each subregion according to the rules assigned to that subregion,~~

~~wherein said two or more subregions are spatially distinct and wherein their boundaries can be modified by a user.~~

displaying at least one 3D data set;

setting at least one boundary which divides said displayed at least one 3D data set into subregions, said subregions being bounded in said 3D coordinate system;

assigning sets of display rules to each subregion, wherein said assigned sets of display rules are different from each other; and

displaying said at least one 3D data set including said subregions according to said assigned sets of display rules;

wherein said subregions are spatially separated by said at least one boundary and wherein said at least one boundary is interactively modifiable on said display of said at least one 3D data set including said subregions by a user.

26. (currently amended) The method of claim 25, wherein one of the 3D data sets is displayed in each subregion.
27. (previously amended) The method of claim 25, wherein only one 3D data set is displayed in each subregion.
28. (previously amended) The method of claim 3, wherein the 3D data sets displayed in each region are surface renderings of polygonal data sets.
29. (previously presented) The method of claim 25, wherein in at least one subregion at least two 3D data sets are displayed.
30. (currently amended) The method of claim 1, wherein said subregions can be rotated or translated by a user within the 3D space defined by the 3D co-ordinate system.